

ABSTRACT

A method for breathing of scheduling algorithms for a storage device (110). The method including: (a) computing a worst-case duration of a breathing cycle (P) for the storage device (110); (b) starting a breathing cycle; (c) determining if one of the following becomes true before the end of P: (i) a number of real-time requests is at least a predetermined threshold based on a number of data streams and performance parameters of the storage device; and (ii) a number of pending requests for any single stream becomes more than one; (d) if at least one of (i) and (ii) remain true during the duration of P, starting a subsequent breathing cycle after completion of the breathing cycle; and (e) if both of (i) and (ii) are not true during the duration of P, waiting P time units from the start of the breathing cycle before starting the subsequent breathing cycle.